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An Historical Perspective of Coastal Zone Management in Canada

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The Oceans Conservation Report Series is a newly established series published by Canada's Department of Fisheries and Oceans (DFO), as part of the 1998 International Year of the Oceans' celebrations. This report series is intended to serve a broad audience interested in coastal and oceans issues affecting Canada and the global coastal community. The subject matter reflects DFO's evolving interests and policies, pursuant to the Oceans Act (1996), in three key areas: Integrated Coastal Zone Management; Marine Protected Areas; and Marine Environmental Quality.

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Abstract

Coastal zone management in Canada has had a troubled history. Early attempts at forging a national policy were frustrated by a number of factors, including jurisdictional disputes, interdepartmental rivalry and a lack of political support from key areas such as the private sector. More recent attempts, particularly on the East and West Coasts, have met with some success at the local or sub regional level, yet an overall national coordinated strategy is elusive.

In this study, coastal zone management is taken as a special subset of integrated resource management, and, despite a valid theoretical perspective, attempts to form a national policy have resulted in mixted success. The first part of the paper briefly reviews the concept. Next, a survey is taken of key coastal zone management documents and programs that have tried to develop a national policy on the subject. Successes and failures are noted, and the resulting lessons to be learned from these experiences. The last section includes recommended action items for possible implementation.

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PROLOGUE

Canada has the world's longest coastline and also contains more fresh water than any other nation. As a nation of coasts, however, the record of action to protect and manage these coastlines is limited. While many other nations have acted to create comprehensive and integrated coastal zone management regimes, Canada has not. Instead, the Canadian response has been more of a patchwork of activities, respecting the complex jurisdictional framework of a multi-tiered government organization, and the challenge of response to very different issues in different parts of the nation.

The following report is a snapshot in time of coastal zone management in Canada, and was completed in 1996 as part of background material to support the new *Oceans Act*. It is an historical view: the rapidly evolving jurisdictional changes in the face of federal and provincial program reviews and resulting cutbacks at both levels are resulting in rapid change. This change is both reducing the range of information available on coastal resources, and at the same time helping to forge new partnerships between all the partners who use the coastal zone - in order to deal effectively with common issues.

While the fundamental principles of integrated coastal zone management remain unchanged - the need for integrated multi-partner actions based on good information - the emphasis on "bottom line" thinking, and the rapid loss of corporate memory as employee early departure/incentive programs take full effect and major programs (e.g. the Green Plan action plans) are sunsetted, has meant that: 1) existing coastal zone management programs are j eopardised by instability, and: 2) competition has escalated dramatically for remaining resources.

Perhaps as a reaction to these facts, there is an effort by all levels of government to examine the concept of among the various coastal zone stakeholders which could lead to a coordinated, national approach to encourage the kind of integrated management framework necessary to effect substantive changes. This approach, and related policy initiatives, would necessarily involve much more "in kind" contributions of staff expertise and equipment as well as a greater involvement by industry through associations or as joint venture partners.

There are several barriers which will inhibit integrated response. Mandates remain unclear. The incentive for cooperation has not been strong, except in response to perceived crises (a contaminated

St. Lawrence estuary, a shared toxic sink in the Great Lakes, or an over-stressed Fraser River system.) As well, internal policies of government bodies (e.g. contracting policies) inhibit long-term partnerships with institutions and with industry. From the perspective of industry, more solid guarantees of protection for proprietorial technologies or processes will be needed if industry is to be a full partner in integrated responses to coastal problems.

Coastal zones, more than any other environment, are shared systems. Unisectoral approaches to problem solving have not worked, and the challenge remains to create innovative multisectoral approaches which will produce desired outcomes. There is a great need for better understanding on how partnering can best work among the communities involved in the coastal zone public sector: scientists, administrators, regulators and program managers. Creativity will be required so that both program integrity and fiscal responsibility are respected and maintained, while not stifling creative and innovative solutions.

Coastal zone management is not so much a physical construct as an attitude towards how the various systemic components of the coast (ecological, economic, and socio-cultural) could and should fit together. It is not prescriptive, as the most enduring solutions come from the bottom up, from sharing of experience, and a political commonality of the stakeholders. The values of all stakeholders in the systems need to be understood, and a clearer understanding of what is negotiable needs to be developed. The success of a coastal zone management plan may depend on appropriate and timely communication among stakeholders. Even this can be impeded by the lack of a common vocabulary among the communities of academics, managers, industrial sectors, local residents and visitors whose interests are affected by the definition and delivery of the planing process.

Are there solutions? Leadership at the federal level can come with a stronger commitment to the integrated management concept - in policy and in implementation. This will require development of new partnering arrangements under the *Oceans Act* and identification of the necessary resources to permit the Department to participate meaningfully. At the Provincial level, the high priority of ocean-based industries and their contribution to the local tax base through tourism, trade and development mean there is a strong natural incentive to participate. Because industries who use the coastal zone, and communities within the zone are directly affected by problems and by the solutions chosen, they are likely to welcome the chance to fully participate in integrated initiatives - particularly those which provide a forum where their values can be heard.

Unlike some other nations where major natural or man-made disasters have been the catalyst for development of an integrated approach to coastal zones, Canada has so far had the luxury of very few serious and costly incidents, although events like the Irving Whale or the closure of shellfisheries on both the Atlantic and Pacific coasts can be read as warning shots. Given the value of the coastal resource to the Canadian economy as a whole and our international commitment to sustainability as a nation, there are strong reasons for following an integrated path towards a sustainable Canadian coastal zone.

1.0 INTRODUCTION

The Oceans Conservation Report Series is a newly established series published by Canada's Department of Fisheries and Oceans (DFO), as part of the 1998 International Year of the Oceans' celebrations. This report series is intended to serve a broad audience interested in coastal and oceans issues affecting Canada and the global coastal community. The subject matter reflects DFO's evolving interests and policies, pursuant to the Oceans Act (1996), in three key areas: Integrated Coastal Zone Management; Marine Protected Areas; and Marine Environmental Quality.

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1.1 COASTAL ZONE MANAGEMENT AS INTEGRATED RESOURCE MANAGEMENT

The definition of coastal zone management is as diverse as the coast itself.

The nature of coastal zone management stems from the integration of planning, developing and conserving land-based and marine (and Great Lakes in the Canadian context) resource systems so as to minimize disruption and optimize tangible and intangible benefits (See Hildebrand and Norrena, 1992; World Bank, 1993).

The terms 'coastal zone management', 'coastal resource management', 'integrated resource management' and 'coastal area planning and management' are all used interchangeably in the literature. The planning component interrelates and guides the various economic and biophysical sectors. Its goal is to prepare a comprehensive plan that specifies the means to effectively balance environmental protection, public use and economic development in order to achieve optimal benefits for the relevant stakeholders. The integration of activities usually involves coordination among the various functions: data gathering, analysis, planning, and implementation.

Coastal zone management can be considered from both biophysical and socio-economic and political perspectives. Biophysically, Canadian coastlines represent a paradox: while undeveloped and remote stretches constitute the vast majority of the coastal zone, the small percentage of intensively used areas and more densely settled coastal urban areas portray all of the resource management problems which can be anticipated in similar urban areas around the world. These intensively-used areas are often among the most environmentally productive and can be very fragile. This pattern results in conflicts: between competing uses and user demands; between the need to maintain natural shore processes and features; and between the effects of natural hazards (shoreline erosion, storms with associated wind and water damage, tsunamis), and human activity.

The scarcity of resources and competing values therefore combine to produce the need for a management regime to allocate benefits among users. The coastal zone satisfies a variety of needs, but its uses are often competitive or mutually exclusive, individually or in combination. These competitive demands are continually being made on what is in essence a finite resource base.

In recent years, certain shore areas in Canada have been subject to rapidly increasing demands for urbanization, industrialization, transportation and recreation (Beckman, 1996; Canada, 1991). Many unplanned or local decisions on coastal use are made without full consideration of environmental impacts or the closure of resource options. Pollution of some coasts has led to problems in shellfish contamination resulting in closure of estuarine areas to harvesting. Poorly planned shore developments in other areas threaten vulnerable marshlands, wetland habitats and estuarine ecosystems. The combination of these factors, along with overfishing, has lead to an outright species moratorium on the East coast offshore fishery resource

These developments, in conjunction with other uses and abuses, suggest that Canada should weigh carefully not just the environmental problems and resource use conflicts associated with each activity, but the combined consequences of such developments. The need for overall planning and coordination of the coastal zone becomes urgent when the cumulative effects of small-scale modification of the coastal zone as well as major impacts of massive developments are taken into account.

Integrated coastal zone management can thus be described as a process to identify, assess and

compare all coastal resource values as a basis for making decisions on coastal resource use allocation.

Integrated coastal zone management includes:

- considering land and water capabilities for sustained use;
- considering social, economic and environmental values, needs and objectives;
- assigning resource use and management emphasis based on the relative merits of various coastal resource uses;
- piecing together a picture of coastal resource priorities for large areas; and
- selecting the best uses for the present, and scheduling coastal resource use changes over time.

It is paradoxical that while concern for integrated coastal zone management has increased world-wide over the years, the Canadian institutional response at the federal level has not kept pace with international efforts. For example, in the United States and in over 50 countries there is now some form of coastal zone management legislation, and literally hundreds of projects (See Mitchell, 1986; Cicin-Sain and Knecht, 1998, Sorensen, 1993). Our best efforts have been selective responses at the local community or provincial levels. The next section examines some of the efforts made to produce a national coastal zone management policy and speculates on how we came to adopt the approach we did.

2.0 REVIEW OF KEY CANADIAN COASTAL ZONE MANAGEMENT PUBLICATIONS AND OTHER POLICY DOCUMENTS

2.1 THE RESOURCES FOR TOMORROW CONFERENCE

If consideration of Canadian resources in an integrated framework (including the coastal zone) can be said to have a genesis, it would probably be the federally-sponsored Resources for Tomorrow Conference, held in Montreal, 1961. This conference brought together experts from the agricultural, water management, regional development, forestry, fisheries, wildlife and recreational sectors to assess the status quo in resource management and to move towards more effective coordination. Established by Prime Minister Diefenbaker's Minister of Northern Affairs and Natural Resources, Alvin Hamilton, the conference had been preceded by three years of planning, dozens of meetings and some 80 studies, with emphasis placed on national, provincial and regional resource concerns. Hamilton's plan for Canada's resources had three components: (1) to compile a national resource inventory through mapping efforts and other research; (2) to make the discovered resources amenable to exploitation; (3) to create job opportunities by encouraging more domestic raw material processing and subsidies to industrial research.

The rationale for the conference was summarized by the following:

The growing interest in resource development in Canada is attributable to many factors, not the least of which is the need to meet increasing competition throughout the world. How well we meet this competition depends in no small measure on how we manage our resources. Improved resource management, therefore, is likely to hold the spotlight to an increasing degree for some years to come for this reason alone. In addition, new and urgent needs are developing within Canada for a more systematic and a more dynamic approach to the conservation and development of our resources. (Thorpe, 1961)

These words are as relevant now as they were 37 years ago.

By the middle and late 1960s, the conference spawned a series of Acts, agencies, and a federal-provincial interministerial coordinating body, the Canadian Council of Resource Ministers (CCRM). CCRM facilitated the exchange of views and coordination of some resource and environmental policies among different levels of government. A new Government Organization Act was passed in 1966 (Canada, 1966), creating a Department of Energy, Mines and Resources (EMR). New concepts of comprehensive, multipurpose resource development were introduced, requiring interdisciplinary and interjurisdictional approaches to resource policy and increased emphasis on economic, social, engineering and technical aspects of resource development.

2.2 EMR WATER SECTOR EFFORTS

Central to this movement was the Policy and Planning Branch of the EMR Water Group, responsible for planning both fresh and marine waters. The Branch had policy coordination and administration, water resource planning, and resources research functions. In 1967, an interdepartmental committee on water programs was formed in the new Department, and 1970 saw the passing of the Canada Water Act (Canada, 1970a). Under this Act, the Minister offered to finance one joint federal-provincial river basin study in each region of Canada, including the Saint John (NB) and the Shubenacadie-Stewiake (NS), both of which had estuarine components. A national conference was held on Pollution and Our Environment in 1966, which produced guidelines on water, air and soil. Great strides were made in conceptualizing an appropriate framework in which federal stakeholders and the provincial actors were represented at the highest level.

In 1971, the Department of the Environment (DOE) was created (Canada, 1970b), patched together from a number of resource functions, as well as the Department of Regional Economic Expansion (DREE), an economic development and a resource management department. DOE was based on the Fisheries Act, (Canada, 1970b) because fisheries under the British North America Act was a federal responsibility (Great Britain, 1867). As Deputy Minister Robert Shaw put it, anything that was bad for fish was to be discouraged, essentially covering the health of the whole environment -- land, air and water.

DOE also absorbed the Canadian Meteorological Service from Transport, the Canadian Wildlife Service from Health and Welfare, the Canada Land Inventory from DREE, Air Pollution Control from Health and Welfare and the Water Sector from EMR.

Early accomplishments in the coastal zone saw the creation of the 200-mile offshore fishing zone (Canada, 1978; See also Canada, 1985), the Great Lakes Water Quality Agreement with the US (International Joint Commission, 1978) and the signing of a dozen river basin planning agreements. A euphoria was created, paralleling the rise of the environmental movement on a global scale. According to the first Assistant Deputy Minister of Policy and Planning, Al Davidson, the Privy Council Office wanted DOE to think in terms of entire ecosystems. Two visionaries stood out in this era, the late Dr. Roy Tinney and Dr. Alan Prince. There was a sense of urgency and purpose created, and the bureaucracy was subsequently expanded. It was exciting to be in the public service, and compared to today, funds were generally not a problem.

2.3 DOE FEDERAL-PROVINCIAL PLANNING AGREEMENTS

In contrast to the United States, where concern for coastal zone problems articulated in the 1969 Stratton Report (United States, 1969) led directly to the proposal of a Coastal Zone Management Act (United States, 1972), Canada took the approach that coastal zone problems could be addressed through the Canada Water Act (Canada, 1970a), which provided for joint federal-provincial agreements.

DOE contained both marine and freshwater divisions, and was responsible for part of the Fisheries Act (Canada, 1970b); at the time, the U.S. had no equivalent department. The U.S. Act would provide policy objectives for the coastal zone and authorize federal grants in aid to facilitate the establishment of state coastal zone authorities, empowered to manage coastal waters and adjacent lands. The proposals were largely accepted and became law under the Coastal Zone Management Act (CZMA), 1972. Some states (Washington, Michigan, California and Florida) had preceded the federal legislation with programs of their own (Beatley et al., 1994; Cicin-Sain, 1991; Gregiore, 1991).

In the U.S., the three fundamental building blocks for a coastal zone program were set: political will (as articulated through the approval by the President and Congress of the CZMA), agreement on common coastal zone policy objectives and necessary funding. Since funding was tied to the state plans conforming to certain federally set parameters, a certain continuity was ensured. A somewhat similar mechanism was being employed in Canada under the Canada Water Act's (Canada, 1970) comprehensive river basin agreements between federal and provincial governments, and were quite generous in encouraging provincial participation (the Saint John Agreement was based on an 90:10 Federal-Provincial cost split).

Meetings of Canadian federal officials at the bureaucratic level were held in 1971 and 1972 in Halifax, Amherst and at the CCRM meeting in Alberta. These meetings created a consensus on the need for thinking about the coastal zone in a unified fashion (Department of the Environment, 1982). There was knowledge of the U.S. legislation and background thinking, and many shared a vision of the need for remedial action in the coastal zone as the result of coastal zone resource conflicts. A federal-provincial coastal zone task force for PEI was established (Canada-PEI, 1973) and recommended a program of inventory and research; it was never properly funded.

In British Columbia, the Westwater Research Centre was established in 1971 and considerable attention was focused on the Lower Fraser estuary under the Federal-provincial agreement on the Fraser river basin. This led to the creation of the Fraser River Estuary Agreement and subsequent management plan, and a general emphasis on land and water use issues (Fraser River Estuary Study Steering Committee, 1978; Truscott and Dunn, 1994). Geographical and socio-political factors (too many people, not enough space, a volatile and highly polarized electorate) has kept attention on the Western coastal zone high (Day and Gamble, 1990).

Learned papers and studies were commissioned (Dalhousie University, Mount Allison University, Waterloo University) recommend ways and means of improving resource management in coastal zone areas of Canada (Hildebrand, 1989). An information net of concerned bureaucrats and scientists formed and pressure mounted to find ways of implementing a unified coastal zone strategy. All were in constant communication.

All this energy, however, did not find a focus, and more importantly, a key program to establish a coastal land use inventory in PEI and a coastal zone mapping program for Atlantic Canada were not supported for budgetary and political reasons (Hildebrand, 1989). More importantly, a 1973 departmental re-organization resulted in the loss of the marine component of the Water Management Service. This was disastrous for federal bureaucrats, now having lost their ability to create a unified marine and freshwater coastal zone strategy within one unit. As a result, a key institutional opportunity to integrate marine interests was dismantled, and the emerging network of bureaucrats and scientists who could be central to the creation of a federal coastal zone management program were instructed to 'cease and desist', and focus their attention exclusively on fresh water environments.

2.4 THE CCREM SYMPOSIUM

A new initiative emerged from the land use sector in British Columbia in 1976. A Coastal Zone Resources Subcommittee was established within the British Columbia Land Resources Steering

Committee. This committee published a report on the management of coastal resources in British Columbia in 1978 recommending action towards an integrated coastal resource management program for British Columbia (Canada and British Columbia, 1978).

The Deputy Minister of the BC Department of Recreation and Conservation at the 1977 meeting of the Canadian Council of Resource and Environment Ministers decided to sponsor a national seminar on coastal zone issues to be held in Victoria in October of 1978 (CCREM, 1978). Approximately a year was spent planning the conference, which had significant federal input from all departments. By that time, the term 'shore zone' had been adopted at the federal level to ensure that central provinces with large water bodies with land-water interface needs and problems to participate.

The conference drew together federal and provincial interests as well as representatives from industry, academia and associations. In addition, it attracted direct Ministerial participation as well as bureaucratic and scientific experts who were expected to work together. Sessions were organized to deliberately include working groups of federal, provincial and other stakeholders around the same table. Public involvement was encouraged (CCREM, 1978). Papers were presented and there was significant media publicity locally and nationally. The hotel was also picketed by conservation action groups seeking attention for the preservation of certain BC estuaries.

The Victoria Symposium resulted in a set of principles (Table 1) for shore management which, if pursued by the related federal and provincial agencies, could lead to more coordinated and effective planning and management frameworks (CCREM, 1978).

The Victoria symposium principles have been criticized as insubstantial and too watered down and generic for action (Hildebrand, 1989). However, this criticism fails to appreciate that the CCREM (who were asked to endorse the principles) was an intergovernmental forum for information and coordination. Any attempt to couch the results in stronger terms would have exacerbated the unease between the two senior levels of government. The 1970s saw the rise of Separatism in Quebec, and a confrontational attitude in areas where resource management responsibilities overlapped. This situation created a very difficult climate that was hard to transcend at the working level.

The principles remain valid, and if one closely examines their content, they identify key areas where coastal zone management efforts can be focused in the specialized Canadian context, a nation characterized by overlapping resource jurisdiction. They were designed to be a starting point upon which cooperative federal and provincial arrangements for the coastal zone could be built.

Table 1: The Victoria Principles for Shore Management (CCREM, 1978)

1. Recognition of the Importance of Shore Areas - All levels of government recognize the critical environmental, economic, and social importance of shore areas and actively promote the sensitive and orderly development of shores and shore resources in the long term.

2. A Cooperative Approach to Management - Where interests of governments and/or agencies coincide, a cooperative approach to the management of the shore should be undertaken. A lead agency should be identified within each jurisdiction to provide the leadership to develop and integrate intra- and inter-jurisdictional policies. This does not preclude direct cooperation between and among individual agencies in relation to specific issues.

3. Policy and Program Coordination - All levels and agencies of government must strive to coordinate their policies and programs so that integrated management of shores and shore resources can be achieved. To accomplish this, interjurisdictional coordinative mechanisms could be adopted to embrace the numerous and diverse interests associated with shore management.

4. The Recognition of the Role of Local Governments - The key role of local governments in shore management planning and implementation must be recognized. Senior governments should support these efforts by providing technical and financial assistance.

5. The Contribution of Industry - The potential contribution and cooperation of industry in the development and implementation of shore management practices must be actively encouraged.

6. The Interrelationship of Shore Activities - All shore users must take into account the consequences of their actions on shore systems and on other activities. Development siting criteria sensitive to the physical, biological and social characteristics of shore must be included within each policy.

7. The Protection of Sensitive Unique and Significant Areas - Sensitive, unique and significant shore areas, including biotic habitats, should be identified and protected. Government could provide incentives to private individuals and groups who manage, protect and restore sensitive shore areas.

8. The Right of Public Access - Rights of public access to shore areas must be ensured. In those areas where shore access in is short supply, efforts should be made to restore public rights of way.

9. Information Systems - Cooperative information systems must be structured so that information obtained is readily available to shore management decision-making and planning. Interjurisdictional information centres to coordinate the collection, collation and dissemination of shore management information could be established for this purpose.

10. Public Awareness - All levels of government must undertake programs designed to increase public awareness and appreciation of the dynamic and sensitive nature of shores. Public concerns should be incorporated into the objective of shore management policies.

2.5 THE NATIONAL SHORE ZONE POLICY

As the direct result of the Victoria Symposium, the federal government appointed a national shore zone coordinator in 1980, Dr. Michael Parkes, to put the above principles into effect. Notwithstanding the political climate, the objective of the shore zone program was to develop and implement policies to ensure coordination of federal activities, and to participate with provinces in the planning of shore zone areas where significant federal responsibilities were involved (Department of the Environment, 1982). Three long-term goals were set out as part of the operational plan for DOE:

- Develop an overall federal strategy for shore zone management, outlining ways of increasing effectiveness in enhancing environmental quality for critical shore zone areas;
- Coordinate and provide leadership for DOE shore zone activities and federal-provincial shore zone planning agreements and,
- Promote effective exchange of technical information and shore zone management methodologies in Canada, and maintain links with agencies engaged in similar activities in other countries.

2.6 THE INTERDEPARTMENTAL SHORE ZONE WORKING GROUP

The Interdepartmental Shore Zone Working Group (ISWG) was an attempt to coordinate shore zone

related matters with other federal departments, and represented nine departments and agencies. A communication and shore zone information exchange was identified as a key issue by the Victoria Symposium. ISWG was to be a vehicle to draw federal interests together (Hildebrand, 1989). The Group met regularly for a year or so, but did not continue when the national coordinator for the program left on special assignment to create the environmental studies program under the new Oil and Gas Act in 1982 (Canada, 1982).

As part of the national program, the publication Shore Zone Report was created by the Environmental Conservation Service of DOE to provide a regular source of information and shore zone activities in Canada. It was designed by the national shore zone coordinator to provide an update on the status of current shore zone initiatives and concerns; to present information on new methodologies, and to help speed technology transfer. Three annual reports were produced 1980-1982 (Hildebrand, 1989). An additional newsletter was produced by the Pacific Region of the same organization (Hildebrand, 1989).

In 1982, three options were identified for the Department for pursuing shore zone management (Hildebrand, 1989):

1. Initiate a major new effort to develop a series of federal-provincial shore zone planning agreements in selected areas;
2. Maintain the current level of activities (i.e., some coordination, but working through existing structures). This would represent a minimal response to the CCREM recommendations; or
3. Abandon the shore zone concept.

2.7 THE APPARENT END OF THE NATIONAL COASTAL ZONE DREAM

The Senior Management Committee chose option 2, condemning the program to a slow death by starvation. Few incentives were offered to enlist provincial support for a coordinated effort in the coastal zone. While the concept was recognized and endorsed, the resources (which represent one of the key building blocks to the implementation of an effective integrated program) were denied. By the end of the 1983-84 fiscal year, the Lands Directorate of the Environmental Conservation Service, the centre for regional coastal zone activities, was eliminated.

Provincial coastal zone activities in Nova Scotia and New Brunswick suffered similar fates. In 1976 the Nova Scotia provincial cabinet established the Deputy Minister's Committee on Land Use Policy including the coastal zone, and a Coastal Zone Management Issue Group (Hildebrand, 1989). Its intent was to form local committees representing three levels of government with an overall objective to create a coastal zone resource management plan. Similar work was undertaken by New Brunswick (a beach resources inventory was completed), and a proposal to create a coastal management plan for Caraquet Bay was put forward for joint funding with the Department of Fisheries and Oceans (DFO) and DOE (Hildebrand, 1989). Funding problems killed the effort.

Subsequent efforts at coastal zone management were largely local and on an individual basis, or at best were regional programs undertaken by the few committed federal bureaucrats who refused to ignore the need for some sort of integration of resource sectors in the coastal zone. The idea of either a national or even coordinated federal coastal zone policy for Canada was effectively dead.

The principles of integrated coastal zone resource management lived on under many activity-specific guises, such as the North American Waterfowl Management Plan (DOE) and related wetland conservation projects, estuary management plans based on water quality considerations (DOE Atlantic Region), the federal Environmental Assessment Review Process, Northern Land Use Planning (Indian and Northern Affairs Canada Northern Program), aquaculture development, the Ocean Dumping Policy, the Marine Environmental Quality initiative (DFO), the Fish Habitat Policy (DFO), the Marine Parks Policy (Parks Canada, Heritage Canada), the World Conservation Strategy, the

International Oceanographic Committee (DFO), and the St. Lawrence River Action Plan (DOE).

As well, certain coastal and ocean research efforts were mounted to provide a valuable data base for future efforts: the Environmental Studies Revolving Fund (Canadian Oil and Gas Lands Administration and Indian and Northern Affairs Canada), Environmental Quality Reports (DOE Atlantic Region), estuary profiles program (DOE Atlantic Region) and the Bay of Fundy-Gulf of Maine-Georges Bank Atlas.

While these activities in no way can be considered a national, coordinated effort on coastal zone management, they represent valuable and useful experience gained in understanding various components of the coastal zone.

2.8 RENAISSANCE: THE IDEA OF A NATIONAL POLICY OF INTEGRATED COSTAL ZONE MANAGEMENT

Ideas, like policies, are cyclical, moving in and out of favour. It appears that the same thing is happening to the concept of integrated coastal zone management in Canada. There are new provincial policies to create an integrated framework for coastal zone management in New Brunswick, Nova Scotia and British Columbia. New Brunswick is developing a coastal lands policy (New Brunswick, 1996), and there has been a major reorganization of the British Columbia administration (1996), combining environmental protection, land use and coastal zone planning and environmental assessment in a new institutional coordinating structure, the Land Use Coordination Office (LUCO). This is in effect the first truly integrated coastal zone management system in Canada.

On the federal side, the Department of Fisheries and Oceans in 1987 called for the creation of a new act to provide the framework for oceans management (Department of Fisheries and Oceans, 1987). Then, in 1994, the Report of the National Advisory Board on Science and Technology Committee on Oceans and Coasts called for the development of a new oceans management strategy based on a new comprehensive approach (NABST, 1994). Accordingly, new Oceans Act has been passed with the objectives of (Canada, 1996):

- the establishment of Canadian sovereignty over the 24 nautical mile Contiguous Zone and the 200 nautical mile Exclusive Economic Zone (EEZ);
- the extension of environmental regulation to the EEZ;
- the creation of an ocean science management system in support of national and regional goals; and
- building on international conventions and cooperative agreements to promote international scientific research in support of a local resource management regulatory regime.

One of the major themes of the legislation is environmental management of the oceans, and the need to integrate environmental, economic and social priorities. This can only come about with a recognition of an ecosystem approach and a framework that links land-based activities to the near-shore coastal zone.

Integrated coastal zone management will therefore become the critical link to coordinating what happens on the land base (which is overwhelmingly under provincial control) and ocean resource uses (which are federally controlled) and the resulting impact on the ocean environment. Without that linkage at the national level, affecting the ocean environment in a positive way will be an illusion. Thus, a national policy on integrating coastal zone resource management now has a much stronger rationale

3.0 SUCCESSES AND FAILURES

There are precious few examples of truly integrated coastal zone management in Canada. While some programs purport to be integrated, closer examination reveals clear faults in fundamental areas, such as the linkage between upland activities and what happens in the immediate coastal area. There are a number of solitudes that exist among the various resource sectors:

- Single-purpose forestry, fisheries, agricultural, industrial and land use programs abound;
- The lack of dialogue among disciplines such as engineering, science, economics and planners is legendary in Canada;
- Rarely has the industrial sector been an active partner in the planning or management of the coastal zone;
- Political boundaries and legislative 'grey areas' have led to duplication and overlap, although these are quickly breaking down as a result of Program Review, which continues to decimate programs and jettison corporate memory in key coastal areas;
- The ecological system of the coastal zone is perceived to be inherently incompatible with the political and administrative structures developed to serve social systems;
- The lack of political will to pursue integrated coastal zone management stands out as a conspicuous failure. As long as it was seen as a politically unattractive item (or neutral at best), all the plans and policies for integrated coastal zone management developed at the bureaucratic level were non-starters. There are few votes in coastal zone management or any planning that doesn't show immediate visible results to the electorate;
- The failure to recognize that the coastal zone is for the most part a common property resource. No single organization or individual owns the resources, and all users may not be motivated to use the resource wisely. Traditional users have resisted imposed management frameworks because they believe they are more likely to lose something than to gain;
- The startling lack of creativity in using institutional mechanisms, legislation and policies in order to devise and implement new solutions to coastal zone management problems in Canada. Fortunately, there are some exceptions;
- The lack of technological support for decision-making has hindered progress in coastal zone management. Descriptive studies do not necessarily develop functional knowledge where cause and effect relationships can be demonstrated. The rapid advance of new information technologies promises some relief in this area, and British Columbia in particular has developed the appropriate technical structures to assist in coastal zone decision-making;
- Proposals to create specific coastal zone management agencies requires the convincing of policy-makers that this area is somehow more worthy of specific institutions than other integrated environmental systems. Integrated coastal zone management is only one of many competing demands for decreasing public funds, and accrued benefits must be weighed against investments in other activities.

The above list is not meant to imply that there has been a total vacuum in creating innovative solutions to coastal zone management problems in Canada. There have been successful initiatives at the community level (Sackville, New Brunswick Waterfowl Park), regional level (Toronto Waterfront Regeneration), and at the large-scale river basin and estuarine level (Fraser River Plan). All of these efforts have addressed the problems outlined above, and to varying degrees have solved them.

4.0 LESSONS LEARNED

There have been a number of lessons learned over the past 25 years in trying to implement a national policy on integrated coastal zone management. These include:

1 Avoid definitional problems over what constitutes the coastal zone. Much time has been wasted over trying to arrive at a consensus on this point. In fact, what constitutes an ideal definition

depends on two points: the purpose at hand, and the agreement by the local community where any proposed management framework is to be implemented. Hence, the boundaries of the zone should extend as far inland and seaward as is necessary to achieve the objectives of the management program.

2. Develop a strategic planning process to put integrated coastal zone management on the political agenda. The implementation of a strategic planning process should be developed in the context of new legislation. Every chance should be sought to educate the Minister and his political staff of the need for action in this area, particularly in light of the current political situation where governments at all levels are expected to do more with less. Strategic planning, based on risk assessment, will become critical to safeguard coastal zone resource integrity.

3. Promote policies and strategies supportive of integrated coastal zone management that includes multiple interests. Sharing and coordination of other diverse values and inputs is a requirement. The Oceans group has an unique opportunity to lead pro-actively and provide a more balanced approach to departmental policies away from a single sector interest.

4. Promote community participation and public involvement in integrated coastal zone resource management policy development at the earliest possible stages. In the case studies, the importance of early public involvement is paramount. In all cases, the value of formal and regular communication were recognized and manifested though newsletters and information material.

5. Recognize the importance of private sector involvement. There is an increasing interest in governments at all levels in using market mechanisms to effect change, redefine the roles of governments, reduce financial and personnel availability through downsizing and organizational re-engineering and the need to build new bases for international competitiveness. These realities must be reflected in strategies adopted for integrated coastal zone management and will include the need to involve the oceans industry sector, in particular in planning. At present, Canadian legislation remains quite restrictive in allowing for public-private sector partnerships. However, the case studies have shown that a more creative use of programs and legislation is possible.

   There is still a degree of apprehension on the part of the private sector that such agreements may allow further government intrusion into their particular industry, resulting in greater regulation. Again, more effective communication is needed.

6. Strive for accommodation and compromise. Providing conflict resolution mechanisms in the public consultation processes is essential to enable implementation of change.

7. Encourage information exchange in planning for integrated coastal zone resource management. Information exchange is a way to foster more efficient cooperation among interested coastal zone stakeholders. A climate of mutual trust is created when a common goal is recognized and pursued with each partner contributing to the overall plan.

5.0 RECOMMENDED ACTION ITEMS

It is clear from an examination of federal programs that very few offer any help to framing an integrated coastal zone management effort in Canada. There is a leadership vacuum, created by current program reviews, of which the Oceans Programs Branch can take advantage. Timing is everything, however, and certain activities must be undertaken now to seize the opportunity. These activities include:

5.1 SUPPORT AND ASSITANCE TO COMMUNITY-BASED COASTAL ZONE PLANNING

Most of the successes in Canadian ICZM have come from small-scale efforts that have truly integrated land and water-based activities. In particular, the importance of the role of committed individuals on site from all levels should be noted. The ways in which these individuals have built relationships and networks should be emulated at the larger scale. Regulators can become communicators. Extrapolation of these successes to the larger scale is essential to achieve the required sectoral integration. Current programs should be reviewed to determine what kinds of information exists or might be re-shaped to be of most use to community-level planning efforts.

5.2 DEVELOPING A MULTISTAKEHOLDER CONSENSUS

Developing a multistakeholder consensus for an integrated coastal zone management policy has never been easy, partly because of the current economic situation. Both levels of government have realized that there are simply not enough resources to sustain certain programs designed to enhance sustainable economic production in the coastal zone. We have in effect reached certain limits to growth under the existing regime. Environmental crises such as the disastrous decline in the fishery stock on both east and west coasts have focused thinking. We can no longer concentrate on a single sector in isolation, and must consider the resources of the coastal zone as common property. A cooperative, national effort is needed to ensure fish stocks are managed on an ecosystem approach to ensure much greater cooperation with industry, and to realize that intersectoral coordination and resource use integration are key variables which we can control.

Every opportunity (conferences, meetings, joint fora) must be sought to get this message across to the public and to provincial and industrial partners. The biannual Coastal Zone Canada conferences are essential in this regard. The Minister should be encouraged to attend and deliver a speech on the subject. Articles should be drafted and printed in cooperation with such influential organizations as the Conference Board of Canada. In January 1998, one year after the Oceans Act (Canada, 1996) became law, DFO began the public participation component of developing an ocean policy for Canada. Following this discussion, DFO intends to implement the Oceans Strategy by the year 2000 (Department of Fisheries and Oceans, 1998).

There should be new efforts in the resource sectors themselves which the Department can assist. For instance, alternatives to wild fish production such as aquaculture must be accelerated as part of a comprehensive policy of integrated sustainable coastal zone development. British Columbia must be persuaded to relax its current moratorium. New cooperative joint ventures must be sought in non traditional areas, such as coastal zone ecotourism. Ocean science must be asked support new management regimes to provide policy-makers with a more accurate scientific base for decision-making.

5.3 CREATING A ONE-STOP COASTAL ZONE INFORMATION SHOP

There is a need for coordination of information from federal departments and agencies with responsibilities in the coastal zone to make information available to a central source. This source would service the general public as well as decision makers at all levels, as well as in the private sector. This could take the form of a new coastal zone information body, which could be quasi-independent, and be based on new information technologies. This clearing-house approach has already been successfully implemented in other government service areas in New Brunswick and in various U.S. States. The Oceans Programs Branch could take the lead in forming such a body for the Department. One positive step has been taken with the publication of resource materials informing the public of the roles all of the federal and provincial departments have in the oceans sector (Department

of Fisheries and Oceans, 1997a, b).

5.4 FORTERING INTER- AND INTRA-DEPARTMENTAL COOPERATION

The complexity of coastal zone resource issues presents problems of scale, demands and information-sharing. Compartmentalization of information and the refusal to share it among departments and government levels present a formidable barrier to integrating management. Transcending the various layers of political decision-making in the coastal zone is central to creating an effective management framework. The reality of how to pull down federal information for the use at the municipal level has to be balanced against the need for departments at the federal level to respect the confidentiality of data, national policy considerations, and their own political futures.

The recent Program Review does not appear to have unduly affected DFO headquarters operations, but it has decimated some regional programs to the point where critical mass cannot be sustained. This is particularly troublesome where the continuity of scientific information is required to make long-term estimates. There will be a need to consider more cooperative programs with other departments and the provincial level, if integrated coastal zone management is to become a reality. The Oceans Programs Branch could take a lead in this process if there is a reluctance to share information, by playing the 'honest broker' role.

There is also a strategic need to involve the central agencies (Treasury Board, Finance and Privy Council Office) as well as Foreign Affairs and International Trade in order to secure the cooperation of other departments. Financial resources must be secured externally if an integrated coastal zone management program is to be a success. This process will require Cabinet support in very trying times.

Specific strategic alliances should be sought with more financially powerful line departments (e.g., Industry Canada), and the economic development agencies (ACOA in the east and the Western Diversification Fund in the west). Particular attention must also be paid to the involvement of Canadian industry in the coastal zone. Joint ventures should be encouraged, and industry educated with respect to the potential benefits of such arrangements. Creative use of the Income Tax Act as an incentive should be explored with Revenue Canada.

Communication therefore becomes a critical element of the strategy (see below), as well as a concerted, proactive lobbying effort with Ministerial staff. The Minister's Office is vulnerable to capture by a single issue, the fishery, whereas the solution can only come by taking a more coordinated and multisectoral approach involving all levels of government, as well as the private sector and general public.

5.5 GETTING THE MESSAGE OUT BY DEVELOPING A NEW COASTAL ZONE COMMUNICATIONS STRATEGY BY THE BRANCH

Developing a new coastal zone communications strategy is a key building block to the successful implementation of a new program in this area. This was evident as far back as 1978, when the need for such as strategy was highlighted in Victoria (CCREM, 1978). Interviews with provincial counterparts confirmed that the level of knowledge of the concept of integrated coastal zone management remains low, particularly at the political level.

Such a strategy should be preceded by an analysis of the current situation, both internally and externally. This analysis would focus on the identification of current problems in communicating such a concept. For example, What are your basic requirements? Is the budget adequate? What are the most

effective ways to communicate? Under what circumstances should advanced information technologies be considered?

The components of an integrated coastal zone management communications plan should include the following considerations:

(i) Objective

Why is the Oceans Programs Branch communicating this information? What is to be achieved by such communication (increased awareness in Ottawa of the concept and the lead being taken by the Branch; a required attitudinal or behavioural change)?

(ii) The Public(s)

What is the context within which the Branch is communicating? Are there economic or social factors that will help or hinder your efforts? The current attitude by some coastal provincial officials towards the Department borders on acrimonious. Why is this attitude prevalent, and what must be done to correct it? How well does the Branch know its audience in the regions? The oceans side of the Department accounts for about three per cent of the operations. What strategies can be developed to increase this proportion?

(iii) Strategy

Given the information above, what strategies should be employed to achieve Branch objectives?

Are there new forms of communication (such as CD ROM or Internet) that can be accessed to spread the message of coastal zone management to a wider audience? A CD ROM presentation should be created for the Minister, and revised for a federal-provincial, or industry presentation.

(iv) Target Public

A number of targets are of immediate concern in order to get the maximum effect for the communication dollar: Is the Minister on side, as well as senior officials, regarding integrated coastal zone management? How far do they want to push the concept in light of the Oceans Act (Canada, 1996) and the consideration of an oceans policy as distinct from a more nearshore focus? Are central agency and other potential departmental allies supportive?

(v) The Message

What is the Branch trying to communicate? How does it reinforce or work against other messages from the department? What kind of terminology should be used, especially in light of the technical or scientific issues of coastal zone management, some of which are just beginning to be understood?

(vi) Timing

When is the best time to communicate the concept of integrated coastal zone management? There is a groundswell of interest among certain coastal provinces (New Brunswick, Nova Scotia and British Columbia) at present. Alternative communication scenarios should be considered, depending on the particular political climate.

(vii) The Vehicle

Which media can be most effectively employed to get the coastal zone management message across?

(viii) The Distribution Mechanism

Will the Oceans Groups be communicating its message directly or through others?

(ix) The Budget

Is the current budget adequate, and what are the direct and indirect expenses? Where will the internal program money come from (there will be no new money to fund the program)? When are the funds needed?

(x) Monitoring and Evaluation

Are there benchmarks set up to monitor the progress of the program internally, and what form will they take? Who will be responsible?

5.6 STRATEGIES AND PRACTICES

Strategies and practices that facilitate integrated coastal zone management are increasingly recognized as necessary to achieve the objectives in the above definition. The adoption of these strategies and practices requires that the following needs be addressed:

(i) Common methods

There is a growing requirement for resource stakeholders to recognize the need for common methodologies for data collection, evaluation and reporting; integrated coastal zone management can be facilitated through the knowledge that such methodologies are practiced by all stakeholders and that they are underlain by standard practices. This process is underway in the provincial planning system on the West Coast. This approach recognizes that the coastal zone environment is a common resource base for all sectors.

(ii) Involve all resource stakeholders

To establish priorities which respect the needs of all sectors, the values and inputs of a multiple range of agencies, publics and other interests must be included when conceiving, designing and implementing policies, programs or projects. Only in this way can support for implementation be assured. Therefore, it is important to give coastal resource stakeholders an opportunity to play an active role in designing and implementing a strategic vision of integrated coastal zone management from the outset.

(iii) Broaden the planning process

Certain critical elements central to greater implementation and overall effectiveness are consistently emphasized by analysts, including strategic planning, quantitative scientific methods, consultative procedures and analysis of dynamic flows and linkages. Integrated coastal zone management is also tool to support sustainable development through its conceptual embracing of broader social, economic and environmental goals.

(iv) Find solutions to fragmentation

The responsibility for the administration, use and management of coastal zone resources is fragmented among the various levels of government and across different administrative units. However, explicit recognition by policy makers of both the interrelatedness of land and water-based systems, and the need to seek early consensus among key coastal stakeholders on the management of these systems are central to the concept of integrated coastal zone management. Activities that support this consensus should aim to transcend administrative boundaries. This is a real challenge; even after a quarter of a century of environmental education, the political level (with a few exceptions) does not or chooses not to recognize this interrelatedness, unless it is politically expedient to do so within a four year time frame.

(v) Create innovative partnerships

Current government financial pressures and the growing recognition of the private sector's critical role in any coastal zone management framework have reinforced the need to create new kinds of integrated coastal resource management schemes that include broader involvement. Hence, while mutual distrust between the public and private sectors has often made cooperation difficult, the adoption of new kinds of partnership arrangements which work to the mutual advantage of both parties need to be explored.

6.0 SUMMARY: THE POLICY RATIONALE FOR PURSUING INTEGRATED COASTAL ZONE MANAGEMENT

Over the past quarter century, much has changed in relation to the nature and extent of natural resource management in Canada, the role that coastal zone management plays in it, and the public's expectation of how governments and corporations should respond to the inherent challenges. Competing sectoral demands for shared resource bases will continue to be our foremost challenge, demanding attention from both the public and private sectors. Balancing relatively short term needs with longer term demands will continue to be difficult. For example, the spectre of a whale watching cruise rounding a headland only to be faced with clearcut slopes and muddy waters is a simple yet evocative depiction of sectoral conflicts of increasing frequency.

The fisheries provides a more immediate and economically devastating example of the type of coastal zone problem confronting resource managers. Massive depletion of East Coast fishery stocks, and an increasingly deteriorating situation on the West Coast, has placed extraordinary pressure on regional economies and may transfer stresses to other natural resource sectors.

To summarize, interest in a more integrated approach to coastal zone management should be brought about for several reasons, particularly:

- an increasing realization by society that decisions about one type of resource development cannot be taken in isolation;
- the general recognition and increasing acceptance of the concept that ecosystems have limits to their productive capacities;
- a growing public awareness of the importance of environmental ethics in the conduct of all activities that may have environmental consequences; and,
- a growing public reaction to the results of resource mismanagement or unisectoral management that fails to incorporate multistakeholder values.

Many of the emerging concepts of integrated coastal zone management were not envisioned when legislation governing various resource sectors was enacted. Moreover, the promotion of integrated coastal zone management is now facilitated by increasingly sophisticated technical support tools. These tools include new information technologies (geographic information systems, coupled with expert systems), revolutionizing the ability to consider and manipulate large coastal zone data sets. A

number of the provinces have recently embarked on providing frameworks for integrated coastal zone data management systems, in cooperation with industry and largely without federal cooperation (See ACZISC, 1998). The Oceans Programs Branch is in an unique position to redress this situation and the Oceans Act can provide a catalyst

Above all, the Branch must become more proactive, or risk losing a significant opportunity to contribute to a renewed federal partnership in an important resource area.

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